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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/677,427

10/02/2003

Richard B. Peterson

245-71325-02

8446

24197 7590 04/09/2008
KLARQUIST SPARKMAN, LLP
121 SW SALMON STREET
SUITE 1600
PORTLAND, OR 97204

EXAMINER

ECHELMEYER, ALIX ELIZABETH

ART UNIT

PAPER NUMBER

1795

MAIL DATE

DELIVERY MODE

04/09/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/677,427

Applicant(s)

PETERSON, RICHARD B.

Examiner

Alix Elizabeth Echelmeyer

Art Unit

1795

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 January 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5, 7-15, 22 and 24-34 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 28-34 is/are allowed.
- 6) ☒ Claim(s) 1, 7-10, 12-15, 22 and 24-27 is/are rejected.
- 7) ☐ Claim(s) 2-5 and 11 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Response to Amendment

1. This Office Action is in response to the amendment filed December 31, 2007. Claims 1 and 9 have been amended. Claims 6, 21 and 23 have been cancelled. Claims 16-20 were previously cancelled. Claims 31-34 have been added. Claims 2-5 and 11 are objected to and claims 28-34 are allowed. Claims 1, 6-10, 12-15, 22 and 24 are rejected.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 1, 6-10, 22 and 24 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claims contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. One having ordinary skill in the art at the time the invention was made would not be enabled, based on the specification, to produce electricity from a catalytic combustor. Additionally, one having ordinary skill in the art would not be able to make a chemical reactor as disclosed in the specification (page 1 lines 24-26) that produces electricity except for a solid oxide fuel cell.

Further, one of ordinary skill in the art at the time the invention was made would not know the use of the electrode connectors, air inlet and fuel inlet as found in claim 1 for a chemical reactor to produce electricity, especially since it is not claimed to what the electrode connectors are connected or what their function is.

Undue experimentation would be needed to determine how to make electricity from the disclosed embodiments besides a solid oxide fuel cell

MPEP 2164.01(a) Undue Experimentation Factors

There are many factors to be considered when determining whether there is sufficient evidence to support a determination that a disclosure does not satisfy the enablement requirement and whether any necessary experimentation is "undue." These factors include, but are not limited to:

- (A) The breadth of the claims;
- (B) The nature of the invention;
- (C) The state of the prior art;
- (D) The level of one of ordinary skill;
- (E) The level of predictability in the art;
- (F) The amount of direction provided by the inventor;
- (G) The existence of working examples; and
- (H) The quantity of experimentation needed to make or use the invention based on the content of the disclosure.

In re Wands, 858 F.2d 731, 737, 8 USPQ2d 1400, 1404 (Fed. Cir. 1988)

The disclosed invention fails to satisfy the enablement requirement based on several factors from the above list. Only the relevant factors will be addressed.

(A) The claims are so broad that one having ordinary skill in the art at the time the invention was made would not know what device was attached to the electrode connectors and was being used to receive and supply electric power ((c) of claim 1)

(C) The state of the prior art would not teach one having ordinary skill in the art how to use a catalytic combustor or a chemical reactor other than a fuel cell in the supply of electric power

(D) As previously discussed, the level of one of ordinary skill in the art would not know how to use the invention of claim 1 to receive and supply electric power other than in a solid oxide fuel cell.

(F) The inventor has not provided direction sufficient to allow one of ordinary skill in the art to receive and supply electric power using a catalytic combustor or chemical reactor

(G) Working examples of how to use a catalytic combustor or chemical reactor to receive and supply electric power are not provided

(H) One of ordinary skill in the art would need to do a large amount of experimentation to determine how to use a catalytic combustor or chemical reactor to receive and supply electric power

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 9, 10, 12-15, 26 and 27 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential structural cooperative relationships of elements, such omission amounting to a gap between the necessary structural connections. See MPEP § 2172.01. The omitted structural cooperative relationships are: Claim 9 is drawn to a solid oxide fuel cell energy module comprising

at least one envelope constructed from a material that is hermetic and comprises quartz. The claim is indefinite because it is unclear whether the solid oxide fuel cell is enveloped within the envelope or if the envelope is contained within the solid oxide fuel cell. Additionally, it is unclear from the claims what the envelope is enclosing. The dependent claims 10 and 12-15 do not clarify the above issues. The specification discloses that the solid oxide fuel cell is enclosed by the envelope.

Reasons for Allowance

6. Claims 2-5 and 11 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.
7. Claims 28-34 are allowed.
8. The following is an examiner's statement of reasons for allowance: the prior art fails to teach the claimed subject matter, specifically the quartz comprising envelope. The limitations to a first and second envelope surrounding a solid oxide fuel cell, with the envelopes made of quartz or glass and having an insulating space between the envelopes, are not taught.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alix Elizabeth Echelmeyer whose telephone number is (571)272-1101. The examiner can normally be reached on Mon-Fri 8-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Susy N. Tsang-Foster can be reached on 571-272-1293. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Alix Elizabeth Echelmeyer
Examiner
Art Unit 1795

aee
/Susy N Tsang-Foster/

Supervisory Patent Examiner, Art Unit 1795